



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,483	09/15/2005	Eli Sofer	1887	5311
63433 7590 12/30/2008				
EDWARD LANGER				
c/o SHIBOLETH YISRAELI ROBERTS ZISMAN & CO.				
1 PENN PLAZA-SUITE 2527				
NEW YORK, NY 10119				
EXAMINER				
VO, TUNG T				
ART UNIT		PAPER NUMBER		
2621				
MAIL DATE		DELIVERY MODE		
12/30/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,483

Applicant(s)

SOFER, ELI

Examiner

Tung Vo

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 10, 26, 27, 31, 35-45, 47, 49-50, 52-53 is/are pending in the application.
- 4a) Of the above claim(s) 6, 8, 9, 11-25, 28-30, 32-34, 46, 48 and 51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 10, 26, 27, 31, 35-45, 47, 49, 50, 52 and 53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Examiner's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter Withdrawn

1. The indicated allowability of claims 48 and 49 as indicated of the previous Office Action is withdrawn in view of the carefully reviewed reference(s) to Depta (US 6,549,122) in view of Ellis et al. (US 6,523,006). Rejections based on the cited reference(s) follow.
2. The indicated allowability of claim 51 as indicated of the previous Office Action is withdrawn in view of 35 U.S.C. 101. Rejections based on 35 U.S.C. 101 follow.

Claims

3. Claims 46 and 48 are incorporated into claim 1 as indicated in the amendment filed on 11/16/2008.
4. Claims 47 and 49 are now dependent on the amended claim 1.
5. Claim 51 is incorporated into claim 27 as indicated in the amendment filed on 11/16/2008.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 27, 31, 35, 52, and 53 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal

Circuit decisions indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example there is no device recited within the claims to accomplish an inventive step(s) of the method claimed.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, 7, 10, 31, 36-45, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depta (US 6,549,122) in view of Ellis et al. (US 6,523,006).

Re claims 1, 4, 5, 10, 36, and 49, Depta teaches a system for aiding a person with a visual impairment or visual obstruction (fig. 2), comprising: means (11 of fig. 2) as at least on computerized imaging device for sensing time/space characteristics and physical characteristics information about a plurality of objects in a field of view said person (distance and locations of the objects are detected by the cameras 11 of fig. 2); means (13 and 14 of fig. 2) as Processing and Control Unit for converting said time/space characteristics and physical characteristics

information (col. 4, lines 9-43) and for characterizing (recognition) the object (col. 3, line 58-col. 4, line 25, note converting the information taken by the cameras (11 of fig. 2) into a virtual three-dimensional image, and image detection unit for detecting or recognizing objects based on the information on the surroundings, which would suggest mean for identifying and interpreting the characteristics of the objects); and means as User Interface Module (e.g. 3 and 4 of fig. 2) for verbally for communicating output ((e.g. 15 and 17 of fig. 2) and input information (Control Module inputs information to the Processing Unit 14 of fig. 2) between said system and said user (col. 4, lines 3-15); wherein said means for interpreting said time/space and physical characteristics information comprises: a sensors processor (1 of fig. 2) and a control unit (4 of fig. 2) for interpreting the sensing data from the sensing means (26 and 11 of fig. 2), and Vision Processing module (an object synthesis (13 of fig. 2) and recognition system (14 of fig. 2)) for interpreting the sensing data from said sensing means.

It is noted that Depta does not particularly disclose the High-Level Vision processing module for interpreting high-level data from sensing means and a World Model database for performing said high-level characterizing; wherein said scene description comprises a hierarchy of object classes identified by said system, together with their position information, physical characteristics, and relative velocity vectors indicating motion; wherein said position information, physical characteristics, and relative velocity vectors information are interpreted by an Object Synthesis and Recognition module; wherein said output information further comprises a scene description about said surrounding environment within the field of view of said person as claimed.

However, Ellis teaches the High-Level Vision processing module (110 of figs. 3A and 3B; col. 3, lines 36-56) for interpreting, decomposing, and synthesizing (220 of fig. 2) high-level data from sensing means (A and B of figs. 3A and 3B) and a World Model database (330 of fig. 3B) for performing said high-level characterizing; wherein said scene description comprises a hierarchy of object classes identified by said system, together with their position information (col. 3, lines 17-23), physical characteristics (Shape and Size of the object, col. 3, lines 37-56), and relative velocity vectors indicating motion (col. 3, lines 52-56, fast moving object indicates velocity vectors); wherein said position information, physical characteristics, and relative velocity vectors information are interpreted by an Object Synthesis and Recognition module (110 of fig. 1); wherein said output information further comprises a scene description about said surrounding environment within the field of view of said person (Ellis; note verbal descriptions of new or rare objects within the field of view is considered a scene description, new objects are in the scene, col. 3, lines 32-36; lines 47-56).

Therefore, taking the teachings of Depta and Ellis as a whole, it would have been obvious to one of ordinary skill in the art to modify the teachings of Ellis into the system of Depta to provide a specific description of the three-dimensional object to guide a visual or vision impaired person precisely.

Re claims 2 and 37, Depta further teaches wherein said means for sensing further comprises devices selected from the group consisting of: CCD sensors (11 of fig. 2, Note cameras 11 inherently have CCD sensors).

Re claim 3, Depta further teaches wherein said time/space characteristics and physical characteristics information about an object includes any of: physical dimensions, general shape

description, texture, color, the distance and position of said user from said object, motion of said object, spatial relationships between objects (col. 3, line 58-col. 4, lines 3; Note three dimensional image).

Re claim 31, Depta further teaches 3D object rendering (col. 3, lines 61-col. 4, line 3).

Re claim 38, the combination of Depta and Ellis further discloses wherein said World Model database (330 of fig. 3B, Ellis) comprises data selected from the group: physical descriptions of known objects and components thereof (col. 3, lines 24-36); the relations of said objects to their respective said components; common relations among said components; groupings of said known objects into classes and subclasses (chairs, doors, tables are classes and sub-classes); common properties of said classes, subclasses and groupings (shapes and sizes of chairs, tables, doors); and common relations among and between said classes, subclasses and groupings.

Re claims 7 and 39-42, the combination of Depta and Ellis further teaches a World Model database (330 of fig. 3B; Ellis) is continuously enriched by adoption to new experiences of said person and implemented in at least one option selected from the modes: direct teaching mode; generalization teaching mode by positive enforcement or default; and refinement teaching mode by negative enforcement or correction (col. 3, lines 26-32; Ellis); wherein said direct teaching mode comprises giving a name to a part of a scene by said user (col. 3, lines 33-34); wherein said generalization teaching mode comprises identifying a part of a given scene as belonging to a specific object class, although some of the relationships, or some of the components, may deviate from that identified in said database (col. 3, lines 37-56); wherein said refinement teaching mode comprises refining the set of definitions to permanently exclude in the future an identification of

only part of a scene as belonging to a specific object class when said user has rejected said partial identification (new items are added to library and verbal descriptions to new or rare objects as indicated, see col. 3, lines 36-36).

Re claim 43, Depta further teaches wherein said means for interpretation comprises scene interpretation data and sensed data streams (11 of fig. 2).

Re claim 44, Depta further teaches said means for interpretation (13 and 14 of fig. 2) further comprises color information of said plurality of objects (col. 3, lines 54-55) and Ellis further teaches wherein said means for interpretation further comprises computations for relating distances (col. 3, lines 3-18) and components thereof within the field of vision of said person (col. 2, lines 63-65).

Re claim 45, Depta further teaches wherein said output information comprises said characterization and interpretation of said plurality of objects (e.g. 13 of fig. 2, note image detection unit for detecting or recognizing objects based on the information on the surroundings).

Re claim 47, the combination of Depta and Ellis further teaches wherein said scene description is verbally communicated in conversational speech to said person based on the distance of said plurality of objects to said user, the closest being communicated first as having a higher priority (Ellis; col. 3, lines 47-56).

10. Claims 26 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Depta (US 6,549,122) in view of Ellis et al. (US 6,523,006) as applied to claim 10, and further in view of Basson et al. (US 6,975,991).

Re claims 26 and 50, the combination of Depta and Ellis teaches wherein said instructions comprise naming and classifying objects known to said user (col. 3, lines 24-20, new items is added and updated).

It is noted that the combination of Depta and Ellis does not particularly teach an automatic speech recognition unit for verbal input of instructions from said person to said Processing and Control Unit.

However, Basson teaches an automatic speech recognition unit for verbal input of instructions from said person to said Processing and Control Unit (218 of fig. 2; Note the transcription service (218 of fig. 2), itself, may comprise: a human stenographer who transcribes the audio content, in real-time, into text; a voice recognition system which automatically recognizes the audio content, also in real-time, and outputs a textual representation of the decoded speech; or some combination of both human stenographer and automatic recognition; and the computer (200 of fig. 2) may execute a speech recognition engine).

Therefore, taking the teachings of Depta, Ellis, and Basson as a whole, it would have been obvious to one of ordinary skill in the art to use the speech recognition of Basson for carrying the combined apparatus of Depta and Ellis in order to allow the user to easily detect voice and moving around.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tung Vo/
Primary Examiner, Art Unit 2621